

PATENT
IBM Docket No. JP920010333US1

Listing of Claims (including status and amendments)

1 (Original). Apparatus comprising:

 a body which consumes power;

 a battery which supplies power to the body through a power line by discharging after being charged;

 a high-capacity capacitor connected to the power line in parallel with the battery;

 a switch for disconnecting or connecting the high-capacity capacitor from or to the power line by a circuit; and

 a controller for controlling operations of the switch.

2 (Original). Apparatus according to claim 1, wherein the controller controls operations of the switch to disconnect the high-capacity capacitor by a circuit when the battery is disconnected from the body.

3 (Original). Apparatus according to claim 1, wherein the controller controls operations of the switch to disconnect the high-capacity capacitor by a circuit when the body is powered off and/or the body is kept in a small-power-consumption mode.

4 (Original). Apparatus according to claim 1, wherein the high-capacity capacitor and the switch are integrated so that they can be set to the body.

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5 (Withdrawn). Apparatus comprising:

a body which consumes power;
a battery which supplies power to the body through a power line by discharging after being charged;
a peak-power supply unit connected to a power line and which supplies power to the body in parallel with the battery when a peak power demand is generated in the body; and

a disconnection unit for disconnecting the peak-power supply unit from the power line when the body is kept in a predetermined small-power-consumption mode and/or the body is powered off.

6 (Withdrawn). Apparatus according to claim 5, wherein the peak-power supply unit is a high-capacity capacitor disposed in the body.

7 (Withdrawn). Apparatus comprising:

a computer;
a battery connected with said computer and which supplies power to said computer by being discharged after being charged;
a peak-power supply unit connected in parallel with said battery cell and supplying peak power demands generated in said computer; and
a leak-current prevention unit for preventing a leak current circulating from said battery to said peak-power supply unit.

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8 (Withdrawn). Apparatus according to claim 7, further comprising a connection determination unit for determining that the battery is not connected to the system, wherein said leak-current prevention unit disconnects said peak-power supply unit from said battery by a circuit based on the determination that the battery is not connected to said computer by said connection determination unit.

9 (Withdrawn). Apparatus according to claim 7, further comprising a recognition unit for recognizing that said computer is kept in a small-power-consumption mode, wherein said leak-current prevention unit disconnects said peak-power supply unit from said battery by a circuit based on the recognition that the system is kept in the small-power-consumption mode by said recognition unit.

10 (Withdrawn). Apparatus according to claim 9, wherein the small-power-consumption mode recognized by said recognition unit denotes any one of the standby state, suspended state, and soft-off state.

11 (Withdrawn). Apparatus comprising:

- a computer;
- a battery connected to said computer and which supplies power to said computer, said battery comprising a battery cell for supplying power by discharging after being charged;
- a capacitor connected to a power line which supplies power to said computer in parallel with said battery cell;
- an on/off switch which turns on and off the connection of said capacitor to the power line; and
- a CPU which controls the switch based on a connection state with said computer and/or a power-consumption state of said computer.

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12 (Withdrawn). Apparatus according to claim 11, further comprising a controller for transmitting a command about a power consumption state to the CPU.

13 (Withdrawn). Apparatus according to claim 11, further comprising a pull-up resistance for the CPU of the battery to recognize the connection state with the system.

14 (Withdrawn). An intelligent battery connected to an electrical apparatus to supply power to the electrical apparatus by discharging after being charged, comprising:

a peak-power supply unit set separately from a cell for supplying power to supply a peak power generated by the electrical apparatus; and

a leak-power prevention unit for preventing the leak current generated by the peak-power supply unit.

15 (Withdrawn). The intelligent battery according to claim 14, wherein the leak-current prevention unit disconnects the peak-power supply unit by a circuit based on a connection state with a body and/or an operation mode of the body.

16 (Original). An intelligent battery set to an electrical apparatus to supply power to the electrical apparatus by discharging after being charged, comprising:

a cell for supplying power through a predetermined power line; and

a high-capacity capacitor connected to the power line in parallel with the cell under a predetermined condition.

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17 (Original). The intelligent battery according to claim 16, further comprising:

a switch for disconnecting or connecting the high-capacity capacitor from or to the power line by a circuit; and
a CPU for controlling operations of the switch.

18 (Original). The intelligent battery according to claim 17, wherein the CPU detects a state in which the cell is not connected to the electrical apparatus or a state in which it is unnecessary to supply a peak power to the electrical apparatus when the cell is set to the electrical apparatus and controls operations of the switch based on a detected state.

19 (Withdrawn). A method comprising the steps of:

supplying power from a cell of a battery to a power consuming body under the steady state of power demand in the body;

supplying power to the body from a capacitor connected in parallel to the cell of the battery when a peak power demand is generated in the body; and

disconnecting the capacitor from the battery when the battery is not connected to the body and/or when the power demand from the body is less than the peak power demand.

20 (Withdrawn). A method comprising the steps of:

supplying power to a power consuming body from a battery and a high-capacity capacitor connected in parallel with the battery;

determining whether it is unnecessary to supply a peak power demand from the battery to the body; and

disconnecting the high-capacity capacitor from the battery by a circuit when a state in which it is unnecessary to supply a peak power demand is determined.

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21 (Withdrawn). The power-supply control method according to claim 20, wherein whether it is unnecessary to supply a peak power demand is determined by recognizing a state of the body based on a command transmitted from the body to the battery.

22 (New). An intelligent battery set to an electrical apparatus to supply power to the electrical apparatus by discharging after being charged, comprising:

- a cell for supplying power through a predetermined power line;
- a high-capacity capacitor connected to the power line in parallel with the cell under a predetermined condition;
- a switch for disconnecting or connecting the high-capacity capacitor from or to the power line by a circuit; and
- a CPU for controlling operations of the switch;

wherein the CPU detects a state in which the cell is not connected to the electrical apparatus or a state in which it is unnecessary to supply a peak power to the electrical apparatus when the cell is set to the electrical apparatus and controls operations of the switch based on a detected state.

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23 (New). Apparatus comprising:

a body which consumes power;
a battery which supplies power to the body through a power line by discharging after being charged;
a switch;
a high-capacity capacitor coupled in series with said switch to the power line, the series combination of said switch and said high-capacity capacitor being coupled in parallel with the battery;
wherein the switch couples and decouples said high-capacity capacitor from and to the power line, and
a controller for controlling operations of the switch and which acts to conditionally decouple the high-capacity capacitor from the power line.

24 (New). Apparatus according to claim 23, wherein the controller controls operations of the switch to decouple the high-capacity capacitor in response to the battery being disconnected from the body.

25 (New). Apparatus according to claim 23, wherein the controller controls operations of the switch to decouple the high-capacity capacitor by a circuit in response to a reduced power state selected from the group consisting of a state in which the battery is powered off and a state in which the body is kept in a low-power-consumption mode.

26 (New). Apparatus according to claim 23, wherein said high-capacity capacitor and said switch are integrated so that they can be set to the body.